Claims

4>		A method of controlling an RF power amplifier comprising:
5		providing a bias signal to the RF power amplifier for normal operation;
		detecting the magnitude of an input signal-to be amplified by the RF power
	amplif	ier; and

changing the bias signal as a function of the input signal to reduce power

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- 2. The method of claim 1 wherein the bias signal is removed when the magnitude of the input signal reaches a predetermine threshold.
- 3. The method of claim 2 wherein the input signal is an RF signal.

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- 4. The method of claim 2 wherein the threshold is a voltage threshold.
- 5. The method of claim 1 wherein the input signal is a digital baseband data.
- 20 6. The method of claim 5 and further including buffering the input signal.
 - 7. The method of claim 6 wherein the bias signal is changed prior to the corresponding input signal being provided to the RF power amplifier.
- 25 8. The method of claim 1 and further comprising low pass filtering the bias signal prior to providing it to the RF power amplifier.
 - 9. A RF power amplifier comprising:
 - a bias voltage circuit that supplies a bias voltage;
 - a comparator circuit that compares an RF input signal to a threshold;
 - a power transistor that receives the bias voltage and amplifies the RF input signal; and
 - a switch coupled to the comparator circuit for modifying the bias voltage to switch the power transistor on and off responsive to the threshold.

- The RF power amplifier of claim 9 and further comprising a low pass filter 10. coupled to the power transistor that filters the switched bias signal.
- The RF power amplifier of claim 9 wherein the switch comprises a transistor. 5 11.
 - The RF power amplifier of claim 11 wherein the transistor comprises a source, 12. drain and gate, and wherein the gate of the transistor is coupled to the comparator.
- The RF power amplifier of claim 9 and further comprising: 10 13. a diode detector circuit coupled to the comparator circuit; and a RF coupler that receives the input signal and provides it to the power transistor and to the diode detector circuit.
- A RF power amplifier comprising: 15 14. a bias voltage circuit that supplies a bias voltage; a comparator circuit that compares an RF input signal to a threshold; a diode detector circuit coupled to the comparator circuit; a power transistor that receives the bias voltage and amplifies the RF input 20 signal;
 - a switch coupled to the comparator circuit for modifying the bias voltage to switch the power transistor on and off responsive to the threshold;
 - a low pass filter coupled to the power transistor that filters the switched bias signal; and
- a RF coupler that receives the input signal and provides it to the power 25 transistor and to the diode detector circuit.
- A RF power amplifier system comprising: 15. a buffer for buffering baseband digital data;
- a buffer for buffering a digital representation of the power of the baseband 30 digital data;
 - a comparator for providing a bias signal to an RE power amplifier as a function of the digital representation of the power of the baseband digital data; and

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a converter for converting the baseband digital data to RF, and providing it to the RF power amplifier.

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- 16. The RF power amplifier system of claim 15 wherein the buffers are FIFO5 buffers of equal size.
 - 17. The RF power amplifier system of claim 15 wherein the digital representation of the power is compared to a threshold power.
- 18. The RF power amplifier system of claim 17 wherein the bias signal turns the RF power amplifier on when the digital represent of the power is greater than the threshold.
- 19. The RF power amplifier system of claim 17 wherein the bias signal turns the
 15 RF power amplifier off when M consecutive power samples are all less than a threshold power.

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- 20. A method of controlling a RF power amplifier system, the method comprising buffering baseband digital data;
- buffering a digital representation of the power of the baseband digital data; providing a bias signal to an RF power amplifier as a function of the digital representation of the power of the baseband digital data; and

converting the baseband digital data to RF, and providing it to the RF power amplifier.

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